

true Radiata, that Cuvier placed them in that division, but simply because he allowed himself to depart from his own principle, and to add another consideration, besides the plan of structure, as characteristic of Radiata,—the supposed absence of a nervous system, and the great simplicity of structure of these animals;—as if simplicity of execution had any necessary connection with the plan of structure. Another remarkable instance of the generally approved removal of a class from one of the types of Cuvier to another, was the transfer of the Cirripeds from among the Mollusks to the branch of Articulata. Imperfect knowledge of the plan of structure of these animals was here the cause of the mistake, which was corrected without any opposition, as soon as they became better known.

From a comparison of what is stated here respecting the different plans of structure, characteristic of the primary divisions of the animal kingdom, with what I have to say below about classes and orders, it will appear more fully, that it is important to make a distinction between the plan of a structure and the manner in which that plan is carried out, or the degrees of its complication and its relative perfection or simplicity. But even after it is understood that the plan of structure should be the leading characteristic of these primary groups, it does not yet follow, without further examination, that the four great branches of the animal kingdom, first distinguished by Cuvier, are to be considered as the primary divisions which Nature points out as fundamental. It will still be necessary, by a careful and thorough investigation of the subject, to ascertain what these primary groups are; but we shall have gained one point with reference to our systems,—that whatever these primary groups, founded upon different plans, which exist in nature, may be, when they are once defined, or whilst they are admitted as the temporary expression of our present knowledge, they should be called the branches of the animal kingdom, whether they be the Vertebrata, Articulata, Mollusca, and Radiata of Cuvier, or the Artiozoaria, Actinozoaria, and Amorphozoaria of Blainville, or the Vertebrata and Invertebrata of Lamarck. The special inquiry into this point must be left for a special paper. I will only add that I am daily more satisfied, that, in their general outlines, the primary divisions of Cuvier are true to nature, and that never did a naturalist exhibit a clearer and deeper insight into the most general relations of animals than Cuvier, when he perceived, not only that these primary groups are founded upon differences in the plan of their structure, but also how they are essentially related to one another.

Though the term type is generally employed to designate the great fundamental divisions of the animal kingdom, I shall not use it in future, but prefer for it the term branch of the animal kingdom, because the term type is employed in too many different acceptations, and quite as commonly to designate any group of any kind, or any peculiar modification of structure stamped with a distinct and marked